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globose, or in twos, when they are hemispherical and very flat on the ventral side; beak very short, chalaza narrow, elongated, groove without any visible rhaphe.

Michaux found it abundant on river banks in Illinois, but he may have confounded it with *V. riparia*, which is very abundant there. Mr. Eggert collected it in Missouri, on the Mississippi, in low bottom land, opposite Alton, not far above the mouth of the Missouri river, where it is found with *V. riparia*, flowering later than any other of our species here, in this very late season apparently not before the 15th or 20th of June; it matures in October, and the berries remain on the vine till November and later; their taste is sweet, without any disagreeable admixture. The plant, like *V. riparia*, grows readily from cuttings.

The species resembles *V. riparia* in the broad sinus of the leaves and the form of the seeds, but it is distinguished by the deep red color of the stems, which are angular when young, not terete, the thick diaphragms, the very small stipules, the dull, dusky color of the leaves and the form of their lobes, the bloomless berries, the large seeds and the late flowering period. With *V. cordifolia* it has very little in common, except the thick diaphragm and the bloomless berries. The absence of a prominent rhaphe on the seeds distinguishes it at once, and no other species could possibly be confounded with it.—G. ENGELMANN, *St. Louis, June 7, 1883.*

Notulæ Californicæ.

Saxifraga malvæfolia, Greene. Bull. Torr. Club. IX. 121. In addition to the single specimen on which the species was founded, two more have lately come to light in the herbarium of the California Academy; and this further information has been obtained. The plant was collected by Dr. Kellogg and Mr. Harford, in the autumn of 1876, on Santa Cruz Island, not Santa Rosa, as stated in the note accompanying the printed character. All three of the specimens now known show strongly the woody fibrous root (without any trace of bulb, or tuber), the leaves appearing simultaneously with the flowers, and the broad calyx, which are the characters by which the species is well distinguished from the closely allied *S. Parryi*, Torr., known only on the main land in the south part of the State.

Lythrum Hyssopifolia, L., not accredited to California, was collected by the present writer, at Calistoga, as long ago as 1874, and is observed to be very common near the shore of the bay at West Berkeley.

Pentachœta exilis, Gray. Bot. Cal. I. 305. I doubt if the rays in this species are ever of any color but white. What may pass for "sulphur color" in old specimens is, I think, the result of long keeping in the herbarium: such a change of color as usually happens to the white rays of Compositæ when the specimens are some years old. Everywhere, as seen growing, the rays are white, with usually a purple tinge on the under surface.

Pentachœta alsinoides, Greene. Bull. Torr. Club. IX. 109. Messrs. Kellogg and Harford collected abundant and excellent specimens of this most distinct species, at Mission Dolores, in the city of San Francisco, as long ago as 1868. I have sought vainly for any trace of ligules in their specimens, which are younger than those of my own gathering last year on the Berkeley hills. I find it, this year, at Vallejo, while Mrs. M. K. Curran brings in abundance from El Dorado county. Growing with it, in the district last named, Mrs. Curran finds what will have to be called

PENTACHÆTA APHANTOCHÆTA, namely, the *Aphantochœta exilis*, Gray. Pacif. R. Rep. IV. 100, referred, in Bot. Cal. I. 305, to *Pentachœta*, as variety of *P. exilis*, Gray. Its herbage, corollas, akenes, pappus, etc., all have characters by which the species is readily distinguished; and in the very copious specimens on hand there is no trace of any running together.

Grindelia hirsutula, Hook & Arn. Under this name two clearly distinct species are included. One is more slender, with short involucral scales, and smaller heads, which are nodding in the bud. The other is stout, holding its young heads rigidly erect, and having long, spreading involucral scales; but will any one be able to say which is the original *G. hirsutula?* The name is equally suited to both.

Grindelia cuneifolia, Nutt., is assuredly an excellent species, very readily distinguishable from *G. robusta*, Nutt., by its suffrutescent growth, and different time of flowering. It is three or four feet high, with a woody trunk, an inch or two in diameter, with a very dark, smooth bark. Its season of flowering is from October to the end of the year. *G. robusta* is always wholly herbaceous, and is done flowering by the end of August.

Both Dr. C. C. Parry and Mrs. Curran have this year brought in from the Antioch region good specimens of what Dr. Kellogg once described as *Stylocline acaule*, and which Dr. Gray, in Bot. Cal. II. 456, refers, as a form, to his own *Evax caulescens*. It appears to be so good a species of the genus last named that it even invalidates the subgenus *Hesperevax;* for it has strictly the habit and the umbellate inflorescence of *Euevax*. The plant is of robust habit, but depressed, and nearly stemless, and the heads are borne in crowded umbels subtended by rosulately arranged foliage. The branches are stout, but short and horizontal. Although the specific name proposed by Dr. Kellogg, some years since, is neither strictly applicable, nor in the genus *Evax* very distinctive, yet I suppose it ought to be retained; and the specimens now collected will be distributed under the name EVAX ACAULIS, Greene.

The curious *Madia citriodora*, Greene, Torr. Bull. IX. 63, with akenes so strangely like those of a *Hemizonia*, hitherto known only from Yreka, in the extreme north of the State, is also now found by Mrs. Curran, not far from Sacramento. Her specimens are larger and more branching than the original ones, but have the same pleasant fragrance, with all the technical characters of the species.

Madia Yosemitana, Parry, I find in the herbarium of the California Academy, collected long ago by Dr. Eisen, near Fresno, and by Mr. Elisha Brooks, in the upper part of the Sacramento Valley, near Oroville. These specimens are all very much larger, with larger heads, and the flowers in them much more numerous than in the Yosemite plant.

It is not noted in the Bot. Cal. that two of the species of *Madia*—*M. Nuttalii* and *M. Bolanderi*—are perennials. That the last named species is so, I discovered but recently, and I now conclude that Mr. Pringle's Mt. Shasta plant, which was distributed as a new species, is only a variety of *M. Bolanderi*, differing from the type mainly by its shorter pappus. In Mr. Bolander's specimens I find occasionally a short pappus on a ray-akene.

It is nowhere noted in the books that the genera *Layia* and *Hemizonia* have different seasons of flowering, the former being vernal, the latter autumnal. There are, indeed, in the case of *Hemizonia* a few exceptions. *H. luzulæfolia*, DC will sometimes begin to flower in April, but it is in its best state in October. *H. Kelloggii*, Greene, is more strictly vernal, being in full glory during the month of May.

Asclepias incarnata, L. This species, which, so far as I can see, is not accredited to the Pacific slope of our continent, appears to have been collected in a swamp near San Jose, long ago, by Dr. Bolander. An excellent specimen, so ticketed, in the doctor's own handwriting, I find in the herbarium of the Academy.—E. L. GREENE.